

The following 6 graphs show daily-mean discharge (dashed blue line) and instantaneous discharge (blue triangles) measured during sample collection, and concentrations of methyl mercury in unfiltered (solid red squares) and filtered (open red squares) water samples. Each data series was selected for this cursory analysis because at least one of the samples ranked within the 12 largest concentrations of methyl mercury out of 135 samples collected from the Carson River at Weeks Bridge during January 1998 through April 2007. These data indicate that higher concentrations of methyl mercury are predominantly associated with suspended sediment (most is removed when filtered through a 0.45 micron capsule filter) and concentrations often are higher in samples collected during the rising limb of runoff hydrographs and samples collected after the peak often have smaller concentrations, presumably due to “flushing of the hyporheic reservoir” and dilution. Even relatively small runoff hydrographs appear to raise concentrations by disturbing unstable bedforms of the river channel. Graph #6 illustrates that when streamflow is very low the hyporheic zone will contribute methyl mercury by diffusion and “transient exchange” and also that warm summer temperatures may increase hyporheic methylation.





